REMARKS

Claims 1-28 were pending in the application. By this paper, Applicant has amended Claims 10 and 25-28, and added new Claims 29-37. Accordingly, Claims 1-37 are presented for examination herein.

Power of Attorney

Applicant includes herewith a duly executed Power of Attorney compliant with 37 CFR §1.32 authorizing the undersigned to prosecute the present application.

Allowable Subject Matter

Claim 12 – Per page 20 of the Office Action, the Examiner stated that Claim 12 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

By this paper, Applicant has added new independent Claim 29, which contains all the limitations of dependent Claim 12, dependent Claim 11, and independent Claim 10. No new matter has been added.

Accordingly, Applicant submits that new Claim 29 is in condition for allowance.

In the Drawings

The Examiner has objected to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they do not include the reference signs mentioned in the description. Applicant has herein submitted appropriate replacement sheets for Figs. 1 and 7 in compliance with 37 CFR 1.121(d) including all such missing reference signs. No new matter has been added.

As such, Applicant's submits that the Examiner's drawing objections have been overcome.

Claim Objections

Claim 26 – The Examiner has objected to Claim 26 as containing the phrase "is be." By this paper, Applicant has amended Claim 26 to provide appropriate correction.

Claim 27 – The Examiner has objected to Claim 28 as reciting the limitation "the autonegotiation mechanism" without proper antecedent basis. By this paper, Applicant has amended Claim 28 to now depend on Claim 27 instead of Claim 26, thus providing appropriate antecedent basis for this limitation.

§102 Rejections

Claim 25 – The Examiner has rejected Claim 25 under 35 U.S.C. §102(b) as being anticipated by Smith et al. (U.S. Patent No. 6,813,651, hereinafter, "Smith"). The Examiner has asserted that Smith teaches in Figure 4, item 108: "*An IEEE 1394-compliant PHY in communication with the IEEE 802.3 compliant PHY.*" {emphasis added} Applicant respectfully traverses.

As Smith has pointed out in his initial review of the OSI model:

> "*...the physical layer defines the electrical characteristics of the actual connection between network nodes. The next layer up, the data link layer, deals with how the network is shared between nodes*" (Col. 1, lines 34-36) (emphasis added).

Smith also explicitly states:

> "*As the present invention will be explained below, a novel interface device and an IEEE 802.3 PHY replace the 1394 PHY chip to allow communication over the 802.3 standard...[t]he interface device of the present invention thus allows the interoperation of an IEEE 1394 link layer device with an IEEE 802.3 physical layer device*" (Col. 5, lines 25-32) (emphasis added).

Also note that Figure 4, item 108 is labeled: "IEEE 1394 Link" and not "IEEE 1394 PHY." Incidentally, Smith's 1394 PHY-LINK Interface (FIG. 4, not designated by a reference numeral) is the standard 1394 interface between a 1394 Link and a 1394 PHY, but as mentioned above, Smith has replaced the 1394 PHY with the interface device and the IEEE 802.3 PHY. Thus, Smith fails to show "An IEEE 1394-compliant PHY in communication with the IEEE 802.3 compliant PHY," as specifically claimed by Applicant in Claim 25. As such, this reference fails to anticipate Applicant's claim.

Notwithstanding, Applicant has amended claim 25 to read, in relevant part:

(1) An apparatus for transmitting ~~data~~ <u>a data stream</u> across a high-speed serial bus, the apparatus comprising:

(2) <u>a symbol insertion mechanism adapted to insert at least one symbol into the data stream to facilitate transfer of the data stream at a rate associated with the high-speed serial bus;</u>...

Support for this amendment is replete throughout Applicant's specification (see, e.g., page 3, paragraph 6 of Applicant's specification).

Applicant submits that Smith neither teaches nor suggests said <u>symbol insertion mechanism</u>. Furthermore, said <u>symbol insertion mechanism</u> is seemingly not taught or suggested by any reference cited against Applicant, when taken alone or in combination.

As such, Applicant believes that amended Claim 25 is in condition for allowance.

§103 Rejections

Claims 1 and 13 – The Examiner has rejected Claim 1 under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Crutchfield et al. (US 2002/0196884, hereinafter, "Crutchfield"). Applicant respectfully traverses.

For the same reasons mentioned above with respect to Claim 25, Smith neither teaches nor suggests an <u>IEEE 1394-compliant PHY</u>. Smith likewise does not teach generating a symbol on <u>an IEEE 1394-compliant PHY</u>, as specifically claimed by Applicant.

While Crutchfield discusses data transmission over an IEEE-1394 bus (paragraphs 12, 13), Crutchfield neither teaches nor suggests sending an 8-bit byte to <u>an IEEE 802.3-compliant PHY</u>. Crutchfield concerns a method and apparatus for achieving synchronous pulse generation for use in variable speed communications; Crutchfield is not concerned with interfacing FireWire with Ethernet. As such, there is no mention anywhere in Crutchfield of an <u>IEEE 802.3-compliant PHY</u>.

Neither Smith nor Crutchfield, when taken alone or in combination, teach or suggest a method of transmitting data from an IEEE 1394-compliant PHY to an IEEE 802.3-compliant PHY. Specifically, *both* of the steps: "generating a 10-bit symbol on <u>an IEEE 1394-compliant PHY</u> having a port interface" *and* "sending the 8-bit byte to an <u>IEEE 802.3-compliant PHY</u>" are noticeably absent from these references, when taken alone or in combination. As such, Applicant respectfully asserts that Claim 1 is not obvious over these references.

Applicant notes that Claims 2-9 depend directly or indirectly from Claim 1, and as such, are also allowable.

Similar logic applies with respect to Claim 13. Further, since Claims 14-21 are dependent directly or indirectly on Claim 13, they are also allowable.

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Claims 10 and 22 – The Examiner has rejected Claim 10 under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Crutchfield, Thayer, and in view of Anderson et al. (U.S. Patent No. 5,845,152, hereinafter, "Anderson").

Applicant has herein amended Claim 10 to recite limitations relating to receiving an 8-bit
10 byte on an 802.3 compliant PHY. As stated above, Smith fails to show "An IEEE 1394-compliant PHY," and therefore also fails to show "sending the decoded 10-bit symbol to an IEEE 1394-compliant PHY" as specifically claimed by Applicant in Claim 10. Neither Smith, Crutchfield, Thayer or Anderson, when taken alone or in combination, teach or suggest a method of transmitting data from an IEEE 802.3-compliant PHY to an IEEE 1394-compliant PHY.
15 Specifically, *both* of the steps of (i) "receiving an 8-bit byte on an 802.3 compliant PHY" *and* (ii) "sending the decoded 10-bit symbol to an IEEE 1394-compliant PHY" are noticeably absent from these references, when taken alone or in combination.

As such, Applicant respectfully asserts that Claim 10 is not obvious over these references. Further, since Claim 11 is dependent on Claim 10, Applicant submits that it is also
20 allowable.

The Examiner has rejected Claim 22 under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Crutchfield and Thayer. Applicant respectfully traverses for the same reasons discussed above with respect to Claim 10. Moreover, since Claims 23 and 24 are dependent directly or indirectly on Claim 22, these claims are allowable as well.

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Claim 26 – The Examiner has rejected claim 26 under 35 U.S.C. 103(a) as being unpatentable over Stone et al. (U.S. Publication No. 2002/0152346, hereinafter "Stone") in view of Tatum et al. (U.S. Patent No. 6,728,280, hereinafter "Tatum"). The Examiner has stated in effect that although Stone fails to teach an IEE 802.3-compliant PHY having a GMII interface, it
30 would have been obvious to a person of ordinary skill in the art to have used the GMII interface from Tatum to improve the performance of the system.

By this paper, Applicant has amended Claim 26 to include limitations relating to (1) An apparatus for transmitting a data stream across a high-speed serial bus; (2) an IEEE 1394-compliant PHY in communication with the IEEE 802.3-compliant PHY via a switch; the switch determining whether the data stream is routed to the IEEE 802.3-compliant PHY or the IEEE

5   1394-compliant PHY; and (3) a symbol insertion mechanism adapted to insert at least one symbol into the data stream to facilitate transfer of the data stream at a rate associated with the high-speed serial bus;

Support for this amendment is replete throughout Applicant's specification (see, e.g., page 3, par. 6).

10   Applicant asserts that neither Stone nor Tatum, when taken alone or in combination, teaches or suggest the recited symbol insertion mechanism. Adding such symbols to the data stream allows, for example, a FireWire S800 stream (having a data rate after encoding of approx. 983.04 Mbps) to be transmitted over an Ethernet bus as a 1000 Base-T transmit stream (having a data rate of approx. 1000 Mbps).

15   Stone discloses a Modified Hub (MHub) that converts packets into the appropriate format as they are transmitted between Ethernet and FireWire devices. As Stone has indicated:

> "The MHub also preferably provides the appropriate conversions for data transmitted from the MHub, depending on the target device. The MHub preferably converts IEEE 1394-2000 packets to ethernet packets and ethernet
20   packets to IEEE 1394-2000 packets, as appropriate" (Stone, Page 4, Paragraph 28).

Thus, in order to send data from a FireWire device to an Ethernet device per the teachings of Stone, the data stream must first travel across the FireWire bus to the MHub as a 1394-compliant

25   stream, be converted at the MHub into an 802.3 compliant stream, and then travel from the Mhub to the Ethernet device. Stone neither teaches nor suggests a symbol insertion mechanism adapted to insert at least one symbol into the data stream to facilitate transfer of the data stream at a rate associated with the faster bus.

Likewise, Tatum neither teaches nor suggests an IEEE 1394-compliant PHY in
30   communication with the IEEE 802.3-compliant PHY. As such, Tatum does not teach or suggest said symbol insertion mechanism. As such, Applicant respectfully asserts that amended Claim 26 is not obvious over the prior art, for neither reference teaches or suggest said symbol insertion mechanism.

Applicant also notes that since Claims 27 and 28 have herein been amended to be dependent on Claim 26, they are also allowable.

New Claims

5   By this paper, new Claims 29-37 have been added. Applicant submits that these new claims relate to the subject matter claimed in existing Claims 1-28, and hence are properly examined herewith. No new matter has been added.

Other Remarks

10   Applicant hereby specifically reserves all rights of appeal (including those under the Pre-Appeal Pilot Program), as well as the right to prosecute claims of different scope in another continuation or divisional application.

Applicant notes that any claim cancellations or additions made herein are made solely for the purposes of more clearly and particularly describing and claiming the invention, and not for

15   purposes of overcoming art or for patentability. The Examiner should infer no (i) adoption of a position with respect to patentability, (ii) change in the Applicant's position with respect to any claim or subject matter of the invention, or (iii) acquiescence in any way to any position taken by the Examiner, based on such cancellations or additions.
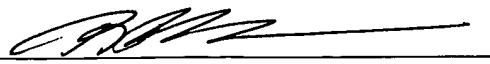
Furthermore, any remarks made with respect to a given claim or claims are limited solely

20   to such claim or claims.

If the Examiner has any questions or comments which may be resolved over the telephone, he is requested to call the undersigned at (858) 675-1670.

Respectfully submitted,

25

GAZDZINSKI & ASSOCIATES

Dated: October 26, 2006   By: _____

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